DOCUMENT RESUME

ED 424 614 EA 029 213

AUTHOR Stegall, Patricia
TITLE The Principal--Key to Technology Implementation.
PUB DATE 1998-04-00
NOTE 13p.; Paper presented at the Annual Meeting of the National Catholic Education Association (95th, Los Angeles, CA, April 14-17, 1998).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Action Research; *Administrator Role; *Catholic Schools; Constructivism (Learning); Diversity (Student); *Educational Technology; Elementary Education; *Instructional Leadership; *Leadership Responsibility; *Principals; Student Centered Curriculum; Teacher Researchers
IDENTIFIERS *Technology Integration; Texas

ABSTRACT

From a Catholic school principal's viewpoint, this paper explains why principals' technology leadership is essential and offers pointers on how to provide it. Computers have much to offer for progressive, constructivist teachers desiring to increase students' responsibility for their own learning. A survey of principals in 54 elementary schools in 4 South Texas dioceses revealed that 31 percent of the schools had Internet access; 85 percent had a computer curriculum; 56 percent had a technology plan; 44 percent had a technology committee; 81 percent had a computer teacher; and 59 percent included technology in their budgets. When questioned, all principals agreed that technology was an important aspect of a Catholic school. The seven schools with the highest technology scores were diverse but shared one characteristic--strong, enthusiastic principal leadership. Principals were adept at making technology happen despite limited resources and supported their convictions by allocating resources, hiring technology personnel, scheduling classes for students and staff development for teachers, writing grant proposals, and enlisting parental support. Principals should use computers themselves, seek experts, form a technology committee, talk warily with sales representatives, visit other schools, brainstorm solutions, and hire and train technology-savvy teachers. (MLH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 424 614

The Principal - Key to Technology Implementation

Presentation at the National Catholic Education Association Convention

April 15, 1998

Patricia Stegall, Ed.D.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

P. Stegall

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

BEST COPY AVAILABLE

EA 029213

The Principal - Key to Technology Implementation
Presentation at the National Catholic Education Association Convention
April 15, 1998
Patricia Stegall, Ed.D.

My purpose this morning is twofold. First of all I'd like to convince you that your leadership is essential, and I'll do that by explaining some research that I did and the results that I found.

My second purpose will be to give you some guidance concerning how to provide that leadership. Hopefully you will leave here today with some concrete steps you can take and some resources you can use.

I don't know about you, but when I was studying school administration no one mentioned technology leadership as an area of responsibility. We studied things like instructional leadership, teacher supervision, auxiliary services, etc. and I knew that I would have to be knowledgeable in many areas but no one ever told me I had to be an expert in technology as well. Knowing the difference between Macs and PCs, the purposes of modems, hubs, and routers, and the relative merits of ISDN vs. T1 lines wasn't a part of the curriculum...never mind how to effectively integrate technology into the curriculum.

Nevertheless, several years ago when our superintendent announced that every school in the diocese would have to have a computer in the principal's office so that we could communicate by "e-mail," I found myself intrigued. Until that time I had only used Apple II's. My family had one and we had several at the school. I informed my School Board that we had to buy a Macintosh and immersed myself in learning about it. I soon found myself the resident "expert" in the Diocese and I use the word "expert" very loosely. I became an Apple Core Trainer and spent what little extra time I had teaching anyone who would listen what I knew about the computer.

As I did that I found myself becoming really excited about what the

EA029213

computer could do for principals, for teachers, and most importantly, for students. I was working on a doctorate in education and the obvious topic for my dissertation was technology. I started a review of the literature. (Very scientifically you understand - I just went to the library and sat down on the floor with stacks of all of the past issues of technology journals and started going through them looking for articles that interested me. When I found one I would make a copy.)

As I started putting all of this together in some semblance of order I found out some interesting things. For one thing, although it might be assumed that a technology centered curriculum would be an impersonal one, the opposite was proving to be true. In an interesting paradox, using these powerful machines was occurring at the same time as renewed focus on the individual child. The "empty Vessel" theory of learning has been utilized throughout most of this century and was thought to be appropriate when the economy of the US was based on mass production. In this theory specific information, drawn from a structured curriculum is presented by the teacher and memorized by the student. (Moursund, 1995) The past decade, however, has seen many educators supporting theories such as constructivism or progressivism. These theories presume that students should take personal responsibility for their learning, to be the creators of knowledge rather than the receivers of information. Researchers have found that as students take more responsibility for their learning teachers become more reflective in an attempt to adapt to technology. (Roberts, Carter, Friel, & Miller, 1988)
In addition, studies have demonstrated that teaching with technology leads to a more child centered and active learning environment, (Wiburg, 1994) increases the amount of cooperative learning and student teacher interaction ,improves the self concepts of the students and leads to increased cooperation rather than competition. (Weiss, 1994)

I found all of this fascinating and wondered if all of this was true why we weren't all doing more with technology. Some of the reasons that have

been suggested include deficiencies in the areas of funds, inservice opportunities, time and facilities, as well as negative attitudes, anxieties, and discomfort with technology. (Chin & Horton, 1993) Another problem lies in the instructional model used by most teachers - group instruction. The computer calls for changes in routines and uses of classroom space.
Teachers may also be threatened by technology, worrying that it will usurp their role. (Marsh, 1993)

As I thought about all of this I began looking for indicators of successful technology programs in schools and I found them. Some of the factors that maximized the benefits of educational technology included: extensive teacher training on the integration of technology into the curriculum, (Weiss, 1994) active participation by teachers in learning activities, support and leadership of the principal, community support, (Roberts, et al, 1988) the existence of district-level technology coordinators and technology committees (Dyrlie & Kinnaman, 1994). Interestingly, the amount of money designated for technology has not necessarily correlated to effective use, more important was whether or not the money was used to create a supportive environment (Weiss, 1994).

Although all of the above have been suggested as indicators of successful programs in public schools no such research was available for Catholic schools. As I was pondering what exactly to write about I kept asking myself what I really wanted to know and I came up with two questions: What was the state of technology in Catholic schools, and, assuming that some schools had done more than others in this area, what had enabled them to do so?

First question - what was the state of technology? I looked for information, read everything I could get my hands on from NCEA, but at the time all I could really find was the statistic that 98% of Catholic schools nationwide had computers. (This was before the latest round of technology publications from NCEA.) I had certain limitations and couldn't conduct a

nation-wide study so in trying to determine the state of technology I limited my study to Catholic elementary schools in the geographical area of South Texas, where I live. The study took place in the fall of 1997 and included 79 schools in four dioceses.

I developed a survey, including indicators of successful technology programs that I had found in my review of the literature. These included things like: staff development, the principal's attitude toward technology, outside support, the existence of a technology plan, a computer curriculum, a computer teacher, a technology committee, Internet access, and the student:computer ratio.

I validated the survey and weighted the indicators using experts in the field of educational technology. This is rather complicated and if you are interested see me afterwards and I can explain in greater detail but I don't want to bore the rest of you. After receiving permission from each superintendent I sent the surveys to the principal of each school. I received responses from 54 schools.

The scores on the technology survey were widely dispersed. The lowest possible score was a 12.87 and the highest was a 92.43 The scores from the 54 participating schools ranged from 31 to 88. The surveys gave me some valuable information about what was going on in the area of educational technology:

- 31% of the schools had Internet access,
- 85% had a computer curriculum,
- 56% had a technology plan,
- 44% had a technology committee,
- 81% had a computer teacher,
- 59% of the schools included technology in their budgets,
- and only 33% received support from outside sources, such as grants.

When questioned concerning their attitudes toward technology, 74% of principals strongly agreed that technology was an important aspect of a

Catholic school and the other 26% agreed for a total of 100%. Ninety-six per cent of principals either agreed or strongly agreed that they had a strong interest in computer technology, and 87% agreed or strongly agreed that they had a great deal of knowledge concerning computers.

After analyzing the results of the survey I selected the seven schools with the highest scores to continue my study. Where the first part had been quantitative, involving numbers, the second was to be qualitative, however I began by breaking down the scores of these seven schools as compared to the larger group. The mean student:computer ratio in these seven schools was 6:1 as opposed to 9:1 in the larger group. All of these schools had a computer teacher and curriculum, and six out of seven had a technology plan and a technology committee.

As I was comparing the demographics that I had about these seven schools, it was immediately apparent that the schools varied widely in enrollment, location, and operating budgets. These were all elementary schools, however they ranged in size from 146 students to 620. Four schools had under 250 students, one had 352, and two had enrollments over 570. The locations of the schools were as varied as their enrollments. Three of the schools were in one large city with a population over one million. Of these three, one was located close to downtown and the other two were suburban schools. The fourth school was in a low income area of a smaller city, and three were located in small towns, ranging in size from 6,900 to 22,000 people.

Although this information was interesting in itself, I wanted to actually visit those schools, talk to the principal and other people involved in technology on the campus, and find out why their scores were so much higher than those of other schools. Originally I had wondered if I would find that these were "wealthy" schools. It was possible that it was as simple as dollars - the schools with more money had more computers, period. The operating budgets indicated that this was not the case. They varied widely as well, with

a low of $376,00 to a high of $1.8 million. This resulted in per student expenditures ranging from $1671 to $3042.

I arranged to visit each school to interview the principal and two teachers. The campus visits were extremely interesting and from them I was able to identify further differences in demographics. While all seven schools were Catholic and operating under the auspices of a diocese, six were parish schools and one was a private school owned and governed by the parents with the principal serving as CEO.

Concerning the principals themselves, three were male and four were female, two were religious and five were lay people, but all expressed a strong interest in technology and the benefits it could provide to their students.

But the interviews provide me with information on much more than just the demographics of the schools. I asked the teachers and principals to tell me about the technology programs in their schools, to what they attributed the fact that their school scored higher than most others on the survey, who had provided leadership, and how they had financed their programs. Again, most of the schools were diverse, a fact that I personally found most encouraging. In fact, the only consistency was the diversity. One school was 140 years old, another was almost brand new. Economically, the SES of the students in one school was described as very low, most were middle class, and one was upper-middle class.

I am sure you are wondering, as I was, how they had been able to finance technology in their schools. This had been done in a variety of ways. One school paid for the technology program completely as a budgeted item, something that is impossible for most of us. Another designated the money from an annual fund raiser for several consecutive years, a third gathered money from many sources including cash reserves, tuition, fund raising, and donations to implement a comprehensive plan. Several had written grant applications which were funded and one had implemented a technology fee.

Most had received donations of time, money, and equipment from individual donors. One school had done an assessment prior to an accreditation visit and determined that their weakest area was technology. They published this information in the parish bulletin and a family came in and wrote a check for $50,000. You never know what people will give until you ask them.

The most notable finding from the study was the diversity of the schools, however there *was* one factor which was mentioned in each one of the seven schools - the leadership of the principal. I had a professor who called it the "Principal Principle." When asked who had provided the leadership, or the drive behind the program, the principal's name was always mentioned. In several schools the principal mentioned it himself or herself, In other cases the principal wouldn't but the teachers were always quick to do so. The most important element seemed to be the principal's belief that this was important and a willingness to support that conviction with concrete actions. I think in Catholic schools we have become masters at making things happen with limited resources. The principals supported their convictions with actions such as: allocation of resources, hiring of technology personnel, scheduling of classes for students and staff development for teachers, and the writing of grant proposals, among others. I'll talk more about what you can do in a minute.

Another factor mentioned in most schools was the support of the parents. This support took the form of allocation of funds by parents serving on School Advisory Councils, fund raisers, and individual donations of money, time, equipment, and expertise. In two schools the parents continue to spend time weekly to administer the computer network.

Hopefully by now you're thinking, OK, I guess my leadership is essential, but you may we wondering what exactly you can do in your already overloaded work day.

1. The first thing you need to do is to use the computer yourself. Studies have demonstrated that, when teachers have seen administrators using

technology effectively they have felt the need to use it as well.

- Seek out training. Ask your diocese to provide training for the principals as a group since it's less stressful to learn with your peers. Utilize the "Boot Camp" concept - go away and "do computers" for 2 or 3 days.
- Read books about computers. The "Dummies" series is good. NCEA has three new books out which were published after I completed my dissertation but which would have proven to be very helpful.
- Read technology journals. Go to your university library and look for back issues. Pick out the articles that interest you.
- Go to technology conferences and pick people's brains. Don't be afraid to sound stupid - everyone has to start somewhere.
- Join technology organizations like ISTE.
- Use the Internet - take some time to explore. It's more meaningful if you have something specific to look for. Start with NCEA's web site and search for other Catholic schools' web sites.

2. Find "experts to help you. Possibilities include parents, the husbands (or wives) of your teachers, people from the community, and hired consultants.

3. Form a technology committee. Include representatives from different groups. Include the faculty (early childhood, primary, intermediate), representatives of the School Advisory Council or whomever will be funding the project, parents, husbands of teachers, and a "techie."

4. Visit with sales representatives and ask questions, always keeping in mind that they are trying to sell you something.

5. Visit other schools. Take faculty members and your technology committee with you.

6. Dream - brainstorm where you would like for your school to go if money was not an object.

7. Write a technology plan. Include your school philosophy and mission statement, a technology mission statement, goals and objectives, a time line, an inventory of what you have, a list of what you want to have and especially - what you want the faculty and students to be able to do with it all.

8. Hire technology-savvy teachers. Insist that applicants be computer literate

9. Provide hardware and software for the teachers *before* the students. Put computers on the teachers' desks. Reachers with the Apple Classrooms of Tomorrow project found that teachers who were introduced to technology went through four distinct stages: entry, adoption, adaptation and appropriation. As the teachers progressed through these stages they went from using the computer for traditional teaching activities to activities where students used technology to gather information and construct their own knowledge.

10. Give the equipment to the teachers who will use it. This is one time you don't have to treat them equally. As you get new hardware and software give it to the most technology-savvy teachers and pass the other equipment down. One plan that works well is to have the teachers actually write a "grant application" to the tech committee, asking for the things they would like to have in their classrooms and explaining what they will do with it. This gives them more ownership in the program and gives you a higher probability that it will actually be used.

11. Provide interest-free loans to teachers so that they can buy equipment for home and let them pay it back with payroll deductions. Your school will gain from their knowledge.

12. Train the teachers, train the teachers, train the teachers.

13. Begin to demand technology literacy from the teachers (slowly.) Some possibilities include requiring that notes home be word processed, having them use electronic gradebooks, helping them create flyers, tests, & worksheets. They will love clip art on the computer even more than they love it from books. If possible, provide e-mail.

14. If you don't have enough computers to have a lab *and* computers in the classrooms, put them in the classrooms.

15. Don't say "I can't." I can't means I choose not to.

16. Always remember - technology must serve your curriculum, not the other way around. Technology for technology's sake serves no-one except for the manufacturers of the hardware and software.

References:

Chin, B. & Horton, J. (1993). Teachers' perceptions of instructional technology and staff development. Journal of Educational Technology Systems, 22(2), 83-98.

Dyrlie, O., & Kinnaman, D. (1994). Gaining access to technology: First step in making a difference for your students. Technology & Learning, 14(4), 16-20l.

Marsh, G. (1993). Computers: Literacy and learning, a primer for

administrators. Newbury Park, CA: Corwin.

Moursund, D. (1995). Learning software, constructing knowledge. The Computing Teacher, 22(7), 6.

Roberts, N., Carter, R., Friel, S. & Miller, M. (1988). Integrating computers into the elementary and middle school. Englewood Cliffs, NJ: Prentice Hall.

Weiss, J. (1994). Keeping up with research, Technology & Learning, 14(5), 30-36.

Wiburg, K. (1994). Integrating technologies into schools: Why has it been so slow? The Computing Teacher, 21(5), 6-8.